

ABSTRACT

Multiple applications enable communications, I/O operation and an I/O interface operations simultaneously at a low cost. The process A requests an OS to allocate an area where a request to an I/O device is put. The OS also allocates an unused context ID for the I/O device to the process A, maps a memory page corresponding to the context ID as an address for accessing the pending register for the process A, and stores a pointer (a physical address) to a request storing area of the process A into an embedded memory in the I/O device. The process A writes contents of requests in its own request storing area, and the OS notifies the I/O device that there is an unprocessed request by use of the address for the pending register. The I/O device reads out the contents of the request storing area by a DMA engine, and realizes the request.